D-BLM-K67046-NV

EC-2
970351

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 10, 1997

Bureau of Land Management
Carson City Field Office
Attn: Terri Knutson, EIS Project Manager
5665 Morgan Mill Road
Carson City, NV 89701

Dear Ms. Knutson:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Olinghouse Mine Project, Washoe County, Nevada.** Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The DEIS analyzes the impacts of a proposed gold-silver mining project which would involve excavation of an open pit, construction and operation of heap leach facilities and a small gravity mill, overburden rock piles, ore stockpiles, and processing and ancillary facilities. Under the BLM preferred alternative, the project would disturb approximately 502 acres over a period of 7 years and involve the excavation of approximately 43,385,000 tons of waste rock and 9,660,000 tons of ore.

We have rated this DEIS as EC-2 -- Environmental Concerns-Insufficient Information. (See the enclosed "Summary of Rating Definitions and Follow-up Action"). Our rating primarily reflects concerns over impacts to water resources, and related aquatic resources and the need for additional information in the Final Environmental Impact Statement (FEIS) to address those concerns. EPA recognizes that NEPA documents should be concise and aim for reduction of paperwork in keeping with 40 CFR 1500.4. We commend BLM on a good job in presenting a concise and well-written document. However, an Environmental Impact Statement (EIS) should focus on key issues that are useful to decision makers [40 CFR 1500.4(f)], and we believe that there are opportunities to focus on these issues by including or appending specific documentation as identified and explained in our attached detailed comments.

Inasmuch as the proposed project is located within the Truckee River watershed, the potential for and intensity of significant environmental impacts are raised due to presence of ecologically critical areas and past controversies [40 CFR 1508.27(b)(3)(4)]. With this in mind, we emphasize our concerns that the proposal could pose long-term impacts to surface and ground waters. We are also concerned about possible significant impacts to endangered species habitat in the Truckee River, due to cyanide exposure, should massive failure or flood-induced breaching

at the ore processing facilities occur.

We appreciate the opportunity to review this DEIS. Please send two copies of the FEIS to this office at the letterhead address (mail code CMD-2) when it is officially filed with our Washington, D.C., office. Should you have any questions, please contact me at (415) 744-1584, or Karl Kanbergs at (415) 744-1483.

Sincerely,

Lamidas W Payne for

David J. Farrel, Chief
Federal Activities Office

002697/97-290

Enclosure

cc: Pam Repp, Mary Jo Elpers, U.S. Fish and Wildlife Service
Nancy Kang, U.S. Army Corps of Engineers
Patrick Williams, U.S. Bureau of Indian Affairs
Ron Kilgore, Washoe County, Department of Development Review
Mervin Wright, Jr., Pyramid Lake Paiute Tribe
Rebecca Harold, Lyon County -- Town of Fernley

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

WATER RESOURCES

The Proposed Action (PA) is within the Truckee River watershed. EPA suggests that the threshold for potential significance of environmental impacts created by the PA is lowered due to presence of ecologically critical areas and past controversies [40 CFR 1508.27(b)(3)(4)]. We have identified five components of the PA that could pose significant environmental impacts to ground and/or surface water resources and associated biologic resources. These are (1) heap leach facilities, (2) the waste rock dump, (3) groundwater pumping of process water at Dodge Flat during mine life and reclamation, (4) projected post mining pit lake, (5) pit dewatering. Our water resource related comments and recommendations are described in the following sections.

Heap Leach Facilities

The proposed heap leach facilities and associated ponds could contaminate groundwater or surface water through use of sodium cyanide. As the DEIS states, failure of primary engineering controls could result in the release of hazardous material into the environment. EPA is concerned about possible release of pregnant solution to ephemeral drainages during a storm event that could work its way toward the Truckee River. We are equally concerned about liner rupture, in the unlikely occurrence of a fault displacement or landslide event directly affecting the pad and pond area.

EPA recommends designing the event pond for at least a 24-hour 50-year flood containment capacity. We recognize Nevada Department of Environmental Protection's (NDEP) requirements for a 25-year flood design, at minimum. However, because of possible effects to the Truckee River system from a pond breach, a larger containment capacity is preferred. Both State of Nevada regulations [NAC 445.2436(1)(d)] and BLM's Nevada Cyanide Management Plan encourages design of containment capacity based on a number of factors, including proximity to surface water. BLM should re-evaluate its stated position on this issue and present an expanded alternatives discussion and/or design modifications in the Final Environmental Impact Statement (FEIS). For example, in reviewing Alta Gold Company's (Alta) Plan of Operations we noted that it may be possible to relocate the storm event pond facilities slightly southward to avoid flow toward Olinghouse Creek, if an unlikely breach were to occur. Such relocation would divert flows into other drainages with less connection to the Truckee River. Additionally, because the proposed ore processing area is at the mouth of a drainage, we also ask that the BLM provide assurance that storm water diversion and culvert sizing is appropriate to avoid flooding of the facilities.

According to the DEIS, should the pond overflow, cyanide would be diluted and otherwise

attenuated. The FEIS should justify BLM's assertion that this scenario would result in less than significant impacts and describe any impacts to Truckee River water quality. Also, emergency cyanide neutralization procedures should be described under water resource monitoring and mitigation measures.

The DEIS describes the project area as seismically active and landslide prone. The placement of the heap leach facilities along a northeast lineament (parallel to the Olinghouse Fault Zone) raises concerns whether there might be active faults underlying the site. Any liner leaks caused by catastrophic failure could significantly impact groundwater resources. EPA recommends that the FEIS provide assurance that the ore processing area is not located along an active fault trace or within a slide area. A geotechnical site characterization is assumed, but not described in the DEIS. The FEIS should address these concerns.

Several further mitigation measures are recommended for heap leach facilities. To mitigate impact to fauna, EPA prefers use of drip emitters for application of leach solution. Additionally, the top of the heap leach pad should have a grade between 1 and 2 percent, so as to avoid ponding and potential harm to wildlife.

Waste Rock Dump

One large waste rock dump is proposed and would fill the upper reaches of Frank Free Canyon, covering a small spring/seep. According to the DEIS, the Frank Free canyon stream channel has been classified as a water of the U.S. by the U.S. Army Corps of Engineers (USCOE). The spring/seep may meet regulatory criteria for jurisdictional wetlands classification. This should be addressed in the FEIS. Furthermore, the FEIS should state whether the waste rock dump would require an individual Clean Water Act (CWA) Section 404 dredge and fill permit, or a nation-wide permit and acknowledge that a Section 401 water quality certification will be required.

In those situations where an individual section 404 permit is applicable, an alternatives analysis, under CWA 404(b)(1), should be integrated into the NEPA process. Pursuant to CWA 404(b)(1) guidelines at 40 CFR 230, practicable alternatives to the proposed discharge site must be examined and the physical and chemical components of the candidate site must be evaluated.

Regardless of the type of permit, BLM should discuss and summarize efforts to avoid, minimize and mitigate impacts to waters of the U.S. that could result from fill activities. All down-gradient portions of the impacted drainages should be included in the discussion. For instance, a sedimentation/evaporation pond located downstream from the waste rock dump is proposed. BLM should describe the impacts to the natural drainage from this action. The FEIS should also include a more thorough characterization of the impacted spring area. Is a seep projected to appear at the dump toe, will the configuration be stable, and what assurances are provided that all

reasonable measures have been taken to guard against surface or groundwater contamination? Although waste rock has been characterized as non-acid generating, EPA recommends that the FEIS provide assurance that specific characterization will be made for materials placed at the base of the dump to assure that they have a high net neutralization potential. We also recommend placement of at least one monitoring well at the ultimate dump toe. BLM should investigate any geotechnical design options, such as placement of coarse material as a basal layer to facilitate drainage, or construction of a stormwater diversion channel above the dump.

If the spring/seep within Frank Free Canyon is buried, BLM should require appropriate mitigation measures as described at 40 CFR 1508.20. We suggest that BLM require restoration and/or fencing around some of the other springs within the Plan of Operations area that have been previously affected by mining operations or cattle grazing. BLM should prioritize areas of concern, describe cumulative impacts, and provide mitigation recommendations.

EPA would like further clarification of issues related to potential acid rock drainage from the waste rock dump. According to the DEIS, about 1 percent of the ore is expected to be acid generating. While this is not a large amount, improper disposal could still cause significant groundwater and/or surface water impacts. We request clarification regarding percentage of potentially acid-generating material. Appendix G of the Olinghouse Project Heap Leach Facilities Water Pollution Control Permit Application describes that 8 percent of the ore as "high clay with sulfide." This may be in conflict with the DEIS description. If higher sulfide contents are known to occur in the identified additional reserves, acknowledgment should be provided under cumulative impacts.

As part of a mitigation and monitoring program EPA recommends an ongoing characterization of acid generation-neutralization potential (AGNP) of ore materials during mining operations. This can be accomplished by routine spot sampling of typical waste rock using static tests, and follow-up with kinetic tests if warranted. Acid generating materials should be isolated or blended, with a minimum resulting ratio of neutralizing material to acid producing material of 3:1. Capping of heaps with impermeable material or sealing with carbonate material should be considered during reclamation if acid rock drainage is anticipated. We also recommend that waste rock piles be graded between 1 and 2 percent to control runoff and avoid ponding from precipitation.

Mine Supply Well at Dodge Flat

According to the DEIS, a mine supply well at Dodge Flat, southeast of the PA, would pump at an average rate of 357 gpm or 580 acre-ft per year. EPA is in general agreement with BLM's assertion that under **average** conditions the impacts to the Truckee River and Pyramid lake would be negligible. We are still concerned, however, about impacts to the Truckee River and related aquatic habitat during possible future droughts. In reviewing reference materials, we note

that during drought years, minimum baseflows can be less than 2 cfs. The DEIS states that groundwater discharge to the Truckee River is expected to decrease by no more than .49 cfs due to pumping affects. The FEIS should comment on possible impacts to the Truckee and possible effects to the endangered cui-ui and the threatened Lahontan cutthroat trout (LCT) during such a drought scenario. To mitigate possible negative effects to the River we recommend that water levels should be monitored on a monthly basis. BLM should work with Alta and other agencies in securing an alternative source of process water in case drawdown exceeds the model predicted drawdown by 50%, or negative impacts, such as impacts to Truckee River biologic resources, are confirmed. We also encourage use of water from pit dewatering for application as mine process water, in order to minimize pumping at the Dodge Flat well.

Pit Lake

The DEIS describes the formation of a post mining pit lake, based on computer modeling. Modeling predicts that the lake will be up to 90 feet deep, will cover an area of 3.4 acres, and will not create adverse impacts to surface or groundwater quality. To facilitate public and agency review [40 CFR 1502.21] EPA recommends that BLM provide a more thorough summary and explanation of the pit water balance and predictive pit lake modeling reports written by Shepherd Miller, Inc. BLM should consider including appropriate cross section(s) and tables to support conclusions. The content of listed references should be clearly identified and their availability for review indicated. The modeling reports appear to be generally good documents, but we do have several comments. A model can be a useful predictor but predictions are only as good as selection of accurate input parameters, such as hydraulic conductivity and initial solution chemistry. We question modeling results based on SMI's report (Water Balance Model), where Figure 4 shows a discrepancy of more than 100 feet between measured and simulated hydraulic heads. The FEIS should clarify the large discrepancies and also note whether the model, TWODAN, has been validated, according to industry protocol.

EPA commends the BLM for using conservative geochemical assumptions for the predictive pit lake model. However, in general, improper assumptions and parameters incorporated into water balance models can invalidate pit lake chemistry predictions. The water balance model is shown to be very sensitive to hydraulic conductivity(K). Because the choice of an average K value may effect predicted pit lake chemistry, the FEIS should justify determination of the average K value. EPA questions the assumption to treat the aquifer as homogenous and isotropic. Contrary to SMI's report, wherein they state that rock types do not exhibit preferred fracture orientations, the DEIS describes mineralization as occurring in a series of near-parallel structures. The FEIS should address these contradictions. EPA recommends a predictive pit lake chemistry simulation based on reduced K values and a discussion of possible effects to pit lake chemistry, if groundwater flow into the pit were to be dominated by flow through a preferred fracture orientation.

According to information provided in the DEIS, reclamation activities for the project would be bonded as per BLM Surface Management Regulations [43 CFR 3809] and Nevada Administrative Code (NAC) 519A.350-519A.630, but it is unclear if bonding applies to the post-mining pit lake. EPA is concerned about possible long-term cumulative impacts to wildlife and groundwater supplies if actual pit lake chemistry differs from modeled values. BLM should describe its course of action if, at time of mine closure, pit lake constituents are shown to exceed Safe Drinking Water Act (SDWA) primary standards, or harm to wildlife from unanticipated pit lake toxicity is noted. Since the pit lake is projected to be only 90 feet deep, possible backfilling could be considered in case the above conditions occur. Other remedies may include the Natural resource damages assessment (NRDA) process as authorized by the Superfund Law (CERCLA) and CWA. Proper assessement of natural resource damage requires sufficient base line information and may rely on information provided in an EIS [43 CFR 11.72(c)(1)]. BLM should determine if baseline data and proposed monitoring would be sufficient for this purpose. We encourage BLM to consider bond pools and use of bond monies for pit lake monitoring programs.

Impacts to Springs

According to the DEIS, pit dewatering is not expected to have an impact on nearby springs because springs appear to be part of a perched system (SMI, 1997). However, a companion report, Spring and Seep Survey (JBR,1995b) implies a possible connection to the regional groundwater system. The report indicates that discharge generally occurs year round and that the observed site conditions are not from seasonal snow melt alone. The FEIS should reconcile the discrepancy. We concur with recommended monitoring of selected springs; however, monitoring does not constitute mitigation. The FEIS should include mitigation provisions if springs are significantly impacted from mine dewatering or formation of the pit lake.

Other Water Related Issues

According to the DEIS, the PA would be designed as a zero discharge facility. But in the same document, pg. 2-8, it is stated that "...water pumped from the pit... could be discharged... to surface drainages." We remind BLM and Alta that such a discharge may require an NPDES permit.

INCOMPLETE INFORMATION

EPA believes that additional information should be provided in the FEIS to improve its usefulness as a decision aiding and public disclosure document (see 40 CFR 1502.21, "Incorporation by Reference"). We recommend that either the DEIS include amplified sections on effects of process water pumping, pit-related water balance modeling, predicative pit lake chemistry, and spring and seep survey and baseline geochemistry and hydrology, within the FEIS

(EPA's preference), or provide appendices of the appropriate consultants' reports. For further guidance on incorporation by reference and appendices please refer to questions 25a and 25b, Council on Environmental Quality--NEPA's forty Most Asked Questions.

ALTERNATIVES

We recommend that BLM consider decreased or increased mining rates, as alternatives in the FEIS, pursuant to 40 CFR 1502.14(a).

CUMULATIVE IMPACTS

The FEIS should include a more thorough description of previous mining activities and surface disturbance, including related environmental impacts (e.g. silting effects, presence of open pits, frequency of underground workings, etc.). EPA acknowledges the DEIS disclosure that additional ore reserves have been identified. BLM properly states that any future mine expansions would require NEPA compliance. The FEIS should discuss, under cumulative impacts, the estimated water quality of an expanded pit lake, and any other projected impacts associated with a possible mine expansion, based on best available current data.

RECLAMATION

The DEIS states that the PA would disturb 502 acres, and all but 99.4 acres (open pits and roads) would be reclaimed. The 502 acres include 165 acres of previous disturbance, according to the DEIS. It is therefore implied that some previously disturbed areas will be reclaimed. However, the document also acknowledges that previous disturbance has "...limited reclamation suitability due to steep slopes and shallow bedrock." The FEIS should identify previous disturbance on a more detailed map, including existing placer pits, and state which areas will be reclaimed, and to what standards. EPA strongly recommends reclamation of historical disturbance where practicable and reasonable as part of the mitigation program. We also encourage reclamation concurrent with mining. BLM should consider requiring concurrent reclamation of previously disturbed areas and address these issues in the FEIS.

AIR QUALITY

Ore processing would include final separation of gold-silver in a furnace. The DEIS does not mention any ore-associated mercury. SMI (1997) notes a few mercury-anomalous ore samples. The FEIS should contain a discussion of any known mercury occurrences in the orebody and clarify mitigation/monitoring plans to contain potential mercury releases to the atmosphere during smelting. A mercury retort is indirectly mentioned on pg. 4-3, but not fully discussed. BLM should state whether a mercury retort will be installed (under Environmental

Consequences--Air Impacts, and Proposed Action--Details of Mining and Processing Operation) and provide assurances that appropriate air quality monitoring at the plant site will occur.

TOXIC RELEASE INVENTORY REPORTING

BLM and Alta should note that on May 1, 1997, EPA added metal mining to the list of industries that will soon be subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and section 6607 of the Pollution Prevention Act of 1990 (See 40 CFR Part 372, *Addition of Facilities in Certain Industry Sectors; Revised Interpretation of Otherwise Use; Toxic Release Inventory Reporting; Community Right-to-Know; Final Rule,* Federal Register: May 1, 1997, pages 23833-23892). Reporting for mining facilities will be effective beginning with the 1998 reporting year. The first reports from all metal mining facilities must be submitted to EPA and the State by July 1, 1999. For specific information regarding the final rule, you may wish to call Mr. Tim Crawford, EPA Headquarters, at (202) 260-1715; e-mail: crawford.tim@epamail.epa.gov.

EPA REGION IX SUMMARY PARAGRAPH

ERP NUMBER: D-BLM-K67046-NV

CEQ NUMBER: 970351

DATE OF EPA COMMENT LETTER: 11/10/97

DATE SENT TO EPA HQ: 11/13/97

NAME OF PRINCIPAL REVIEWER: KANBE

NAME OF PROJECT EIS:

Olinghouse Mine Project

SUMMARY PARAGRAPH:

EPA has expressed concerns regarding potential environmental impacts, primarily to water resources, from the proposed Olinghouse Mine Project, which is located within the ecologically sensitive Truckee River watershed. We expressed our concerns that cyanide heap leach operations and overburden piles could degrade surface or groundwater, and recommended specific design modifications and mitigation. EPA also recommended inclusion of previously referenced data into the Final EIS.

APPROVED FOR FEDERAL REGISTER PUBLICATION BY: _____